### PCT

#### WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



### INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6:

A61K 31/725

A3

(11) International Publication Number:

WO 96/05845

(43) International Publication Date:

29 February 1996 (29.02.96)

(21) International Application Number:

PCT/CA95/00467

(22) International Filing Date:

2 August 1995 (02.08.95)

(30) Priority Data:

2,130,762

24 August 1994 (24.08.94)

CA

(60) Parent Application or Grant

(63) Related by Continuation US

Filed on

08/200,309 (CIP) Published 23 February 1994 (23.02.94)

(71) Applicant (for all designated States except US): HYAL PHAR-MACEUTICAL CORPORATION [CA/CA]; 2425 Skymark Avenue, Mississauga, Ontario L4W 4Y6 (CA).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): TURLEY, Eva, Anne [CA/CA]; Apartment #217, 167 Bannatyne Avenue, Winnipeg, Manitoba R3B 0R4 (CA). ASCULAI, Samuel, Simon [US/CA]; Apartment #TH13, 53 McCaul Street, Toronto, Ontario M6M 2B6 (CA).
- (74) Agents: HUGHES, Ivor, M. et al.; Suite 200, 175 Commerce Valley Drive West, Thornhill, Ontario L3T 7P6 (CA).

(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UG, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG).

With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(88) Date of publication of the international search report: 11 April 1996 (11.04.1996)

(54) Title: TREATMENT OF DISEASE AND CONDITIONS ASSOCIATED WITH MACROPHAGE INFILTRATION IN PARTICU-LAR STROKE AND MYOCARDIAL INFARCTION

#### (57) Abstract

Use of hyaluronic acid and/or salts thereof for the treatment of a human having a disease or condition characterized by macrophage, neutrophile or other white blood cell infiltration into an area damaged by the disease or condition, wherein said use comprises the use of an effective amount of hyaluronic acid and/or salts thereof for a period of time until such use is no longer required.

# FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

0 '	AT	Austria	GB	United Kingdom		10
	AU	Australia	GE	Georgia	MR	Mauritania
	BB	Barbados	GN	Guinea	MW	Malawi -
	BE	Belgium	GR		NE	Niger
	BF	Burkina Faso	HU	Greece	NL .	Netherlands
	BG	Bulgaria	IE	Hungary	NO	Norway
	В	Benin	IT	Ireland	NZ	New Zealand
	BR	Brazil		Italy	PL	Poland :
	BY	Belarus	JP	Japan	PT	Portugal
	CA	Canada	KE	Kenya	RO	Romania
	CF	Central African Republic	KG	Kyrgystan	RU	Russian Federation
	CG	Congo	KP	Democratic People's Republic	SD	Sudan
	CH	Switzerland		of Korea	SE	Sweden
	CI	Côte d'Ivoire	KR	Republic of Korea	SI	Slovenia
	CM	Cameroon	· KZ	Kazakhstan	SK	Slovakia
	CN	China	LI	Liechtenstein	SN	Senegal
	CS		LK	Sri Lanka	TD	Chad ·
	CZ	Czechoslovakia	LU	Luxembourg	TG	Togo
	DE	Czech Republic	LV	Latvia	TJ	<del>-</del>
	DK DK	Germany	MC	Monaco	TT	Tajikistan
		Denmark	MD	Republic of Moldova	UA	Trinidad and Tobago
	ES	Spain	MG	Madagascar	US	Ukraine
	FI	Finland	ML	Mali		United States of America
	FR	France	MN	Mongolia	UZ	Uzbekistan
	GA	Gabon	-		VN	Viet Nam

#### INTERNATIONAL SEARCH REPORT

Inter nal Application No PCT/CA 95/00467

# A. CLASSIFICATION OF SUBJECT MATTER IPC 6 A61K31/725

According to International Patent Classification (IPC) or to both national classification and IPC

#### **B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
X	WO,A,91 04058 (NORPHARMCO INC) 4 April 1991	11-14	
<b>Y</b>	see page 61, paragraph 1; claims 1-6,46-80,82,139; examples XX,XL see page 59, paragraph 4-6 see page 34, line 5 - page 35, line 30	1-10,13, 15-33	
<b>X</b> **	EP,A,O 557 118 (NORPHARMCO INC) 25 August 1993	1,2,11, 12,15, 16,25,26	
	see page 2-3; claims 1-18		
<b>(</b>	US,A,4 725 585 (WENGE PER S W ET AL) 16 February 1988 see the whole document	1-10, 15-33	
	-/		

			9	*					
X	Further do	ocuments are listed in the continuation of box C.	. [	Patent family members are listed in annex.					
• Sp	ecial categori	es of cated documents:							
. <b>V</b> .	"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention						
.E.			'x'	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to					
"Ľ.	document wt	document which may throw doubts on priority claim(s) or		involve an inventive step when the document is taken alone					
	which is cited to establish the publication date of another citation or other special reason (as specified)	id to establish the publication date of another their special reason (as specified)	<b>.</b> A.	,					
.0.		cument referring to an oral disclosure, use, exhibition or		cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled					
.b.	document published prior to the international filing date but		in the art.						
	later than th	c priority date claimed	<b>'&amp;</b> '	document member of the same patent family					
Dat	e of the actual	completion of the international search		Date of mailing of the international search report					
	31 J	anuary 1996		20.02.96					

Authorized officer

Foerster, W

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo ni, Fax: (+31-70) 340-3016

# INTERNATIONAL SEARCH REPORT

Inter nal Application No

(Continuation	DOCUMENTS CONSIDERED TO BE RELEVANT	A 95/00467			
	itation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.			
,	J. CLIN. INVEST., vol. 88, November 1991 pages 1622-1628, A. WALDENSTRÖM ET AL. 'Accumulation of hyaluronan and tissue edema in experimental myocardial infarction' see page 1622 see page 1627-8	1-10, 15-33			
	TEX. REP. BIOL. MED., vol. 39, 1979 pages 339-355, M.R. SHETLAR ET AL. 'Healing of myocardial infarction in animal models' see page 344-345 see page 348	1-10, 15-33			
, Y	see page 352  EP,A,O 197 718 (FIDIA SPA) 15 October 1986 see page 6-16	13			
	WO,A,93 16732 (NORPHARMCO INC) 2 September 1993 see page 75; example 1C	11,12			
		* * .			
s		* =-			
(1)		*			

## INTERNATIONAL SEARCH REPORT

...formation on patent family members

Inter nal Application No PCT/CA 95/00467

Patent document rited in search report	Publication date		Patent memb		Publication date
WO-A-9104058	04-04-91	<u> </u>	AP-A-	175	03-04-92
			AT-T-	131068	15-12-95
			AU-B-	5227493	03-03-94
•	· ·		AU-B-	6433090	18-04-91
M.	•		CN-A-	1051503	22-05-91
	•		DE-D-	69024039	18-01-96
			EP-A-	0445255	11-09-91
	-		EP-A-	0656213	07-06-95
· ·			HU-A-	64699	28-02-94
		,	JP-T-	4504579	13-08-92
			LT-A,B	1582	26-06-95
EP-A-0557118	25-08-93	* <b>-</b>	CA-A-	2061567	21-08-93
US-A-4725585	16-02-88		NONE		
EP-A-0197718	15-10-86		AU-B-	592077	04-01-90
			BE-A-	904547	03-10-86
			CH-A-	672886	15-01-90
		•	DE-D-	3689384	27-01-94
	•		DE-T-	3689384	07-07-94
			EP-A-	0555898	18-08-93
			FR-A-	2579895	10-10-86
			JP-A-	61236732	22-10-86
•	•		LU-A-	86386	02-09-86
			NO-B-	174277	03-01-94
•	*		US-A-	5166331	24-11-92
			US-A-	4736024	05-04-88
			US-A-	5442053	15-08-95
			HU-B-	208833	28-01-94
WO-A-9316732	02-09-93	~~~~	CA-A-	2061703	21-08-93
			AU-B-	3488893	13-09-93
-		*	CN-A-	1084064	23-03-94
			EP-A-	0626863	07-12-94
			FI-A-	943789	03-10-94
	**		JP-T-	7506812	27-07-95
		•	NO-A-	943044	19-10-94
•	•		SK-A-	11193	09-09-93